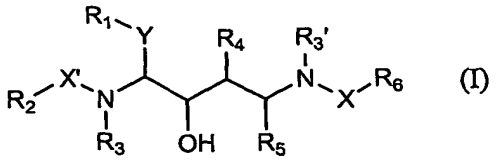
What is claimed is:

1. A compound of formula I:



(I)

or a pharmaceutically acceptable salt thereof, wherein

R_2 is hydrogen, or

R_2 is $(C_3\text{-}C_7$ cycloalkyl$)_{0\text{-}1}(C_1\text{-}C_6$ alkyl$)$-, $(C_3\text{-}C_7$ cycloalkyl$)_{0\text{-}1}(C_2\text{-}C_6$ alkenyl$)$-, $(C_3\text{-}C_7$ cycloalkyl$)_{0\text{-}1}(C_2\text{-}C_6$ alkynyl$)$- or $(C_3\text{-}C_7$ cycloalkyl$)$-, wherein each of said groups is optionally substituted with 1, 2, or 3 R_Z groups, wherein 1 or 2 methylene groups within said $(C_3\text{-}C_7$ cycloalkyl$)_{0\text{-}1}(C_1\text{-}C_6$ alkyl$)$-, $(C_3\text{-}C_7$ cycloalkyl$)_{0\text{-}1}(C_2\text{-}C_6$ alkenyl$)$-, $(C_3\text{-}C_7$ cycloalkyl$)_{0\text{-}1}(C_2\text{-}C_6$ alkynyl$)$- or $(C_3\text{-}C_7$ cycloalkyl$)$- groups are optionally replaced with -(C=O)-;

R_Z at each occurrence is independently halogen (in one aspect, F or Cl), -OH, -SH, -CN, $-CF_3$, $-OCF_3$, $C_1\text{-}C_6$ alkoxy, $C_3\text{-}C_7$ cycloalkyl, $C_3\text{-}C_7$ cycloalkoxy or $-NR_{100}R_{101}$;

R_{100} and R_{101} at each occurrence are independently H, $C_1\text{-}C_6$ alkyl, phenyl, $CO(C_1\text{-}C_6$ alkyl$)$ or $SO_2C_1\text{-}C_6$ alkyl;

X' is -(C=O)- or $-(SO_2)$-;

Y is absent or is $-(CH_2)_n$-, where n = 1, 2, or 3 and where up to 3 hydrogens of $-(CH_2)_n$- are optionally replaced with one, two or three substituents selected from

$C_1\text{-}C_3$ alkyl, -F, -Cl, -Br, -I, -OH, -SH, -C≡N, $-CF_3$, $C_1\text{-}C_3$ alkoxy, -COOH, $-COO(C_1\text{-}C_6$ alkyl$)$, -N(COR)R', -CONRR' or -NRR' where R and R' independently are -H or $C_1\text{-}C_{10}$ alkyl;

R_1 is H, $-(CH_2)_{1\text{-}2}\text{-}S(O)_{0\text{-}2}\text{-}(C_1\text{-}C_6$ alkyl$)$, or

C_1-C_{10} alkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, =O, -SH, -C≡N, -CF_3, -COOR, C_1-C_3 alkyl, -C_1-C_3 alkoxy, amino, monoalkylamino, dialkylamino, -CONRR', -N(R)C(O)R'-, -OC(=O)-amino, -OC(=O)-monoalkylamino, and -OC(=O)-dialkylamino or

C_2-C_6 alkenyl or C_2-C_6 alkynyl, each of which is optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF_3, C_1-C_3 alkoxy, amino, and mono- or dialkylamino, or

-C_1-C_6 alkyl-(C_3-C_7)cycloalkyl where cycloalkyl can be optionally substituted with C_1-C_3 alkyl, halogen, -OH, -SH, -C≡N, -CF_3, C_1-C_6 alkoxy, -O-phenyl, -CO_2H, -CO_2-(C_1-C_4 alkyl), or -NRR', or

aryl, heteroaryl, heterocyclyl, -C_1-C_6 alkyl-aryl, -C_1-C_6 alkyl-heteroaryl, or -C_1-C_6 alkyl-heterocyclyl, where the ring portions of each are optionally substituted with 1, 2, 3, or 4 of

halogen, -OH, -SH, -C≡N, -NRR', -CO_2R, -N(R)COR', or -N(R)SO_2R', -C(=O)-(C_1-C_4) alkyl, -SO_2-amino, -SO_2-mono or dialkylamino, -C(=O)-amino, -C(=O)-mono or dialkylamino, -SO_2-(C_1-C_4) alkyl, or -C_1-C_6 alkoxy optionally substituted with 1, 2, or 3 independently selected halogens, or

C_3-C_7 cycloalkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF_3, C_1-C_3 alkoxy, amino, -C_1-C_6 alkyl and mono- or dialkylamino, or

C_1-C_{10} alkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF_3, -C_1-C_3 alkoxy, amino, mono- or dialkylamino and -C_1-C_3 alkyl, or

C_2-C_{10} alkenyl or C_2-C_{10} alkynyl each of which is optionally substituted with 1, 2, or 3 groups

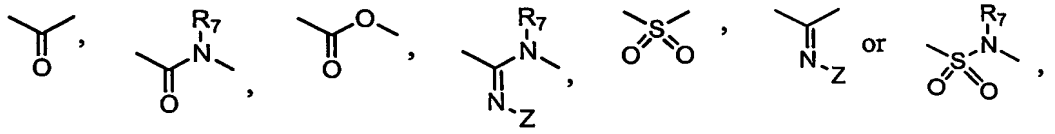
independently selected from halogen, -OH, -SH, -C≡N, $-CF_3$, C_1-C_3 alkoxy, amino, C_1-C_6 alkyl and mono- or dialkylamino;

R and R' are independently -H or C_1-C_{10} alkyl;

R_3 and R_3' at each occurrence are independently H, C_1-C_6 alkyl, $-CO_2$-C_1-C_6 alkyl, or -CO-O-$(CH_2)_n$-phenyl where n is 0, 1 or 2 and phenyl is optionally substituted with C_1-C_6 alkyl;

R_4 and R_5 are independently H or C_1-C_6 alkyl optionally substituted with one, two or three substituents independently selected from C_1-C_3 alkyl, halogen, -OH, -SH, -C≡N, $-CF_3$, C_1-C_3 alkoxy, and -NRR';

X is absent or is:



R_7 is H, C_1-C_6 alkyl, -CO-O-C_1-C_6 alkyl, or -CO-O-$(CH_2)_n$-phenyl where n is 0, 1 or 2 and phenyl is optionally substituted with C_1-C_6 alkyl, and wherein each C_1-C_6 alkyl is optionally independently substituted with one, two or three substituents independently selected from C_1-C_3 alkyl, halogen, -OH, -SH, -C≡N, $-CF_3$, C_1-C_6 alkoxy, $-NR_{102}R'_{102}$,

Z is H, C_1-C_6 alkyl, CN, -O-C_1-C_6 alkyl, or NO_2;

R_{102} and R'_{102} independently are hydrogen, or C_1-C_{10} alkyl optionally substituted with 1, 2, or 3 groups that are independently halogen, or aryl, wherein aryl is optionally with 1 or 2 R_{125} groups;

R_{125} at each occurrence is independently halogen, amino, mono- or dialkylamino, -OH, -C≡N, $-SO_2-NH_2$, $-SO_2$-NH-C_1-C_6 alkyl, $-SO_2-N(C_1$-C_6 alkyl$)_2$, $-SO_2-(C_1$-C_4 alkyl), -CO-NH_2, -CO-NH-C_1-C_6 alkyl, or -CO-$N(C_1$-C_6 alkyl$)_2$, or

C_1-C_6 alkyl, C_2-C_6 alkenyl or C_2-C_6 alkynyl, each of which is optionally substituted with 1, 2, or 3 groups that are independently selected from C_1-C_3 alkyl, halogen, -OH, -SH, -C≡N, $-CF_3$, C_1-C_3 alkoxy, amino, and mono- and dialkylamino, or

C_1-C_6 alkoxy optionally substituted with one, two or three of halogen;

R_6 is $-(CR_{245}R_{250})_{0-4}$-aryl, $-(CR_{245}R_{250})_{0-4}$-heteroaryl, $-(CR_{245}R_{250})_{0-4}$-heterocyclyl, $-(CR_{245}R_{250})_{0-4}$-aryl-heteroaryl, $-(CR_{245}R_{250})_{0-4}$-aryl-heterocyclyl, $-(CR_{245}R_{250})_{0-4}$-aryl-aryl, $-(CR_{245}R_{250})_{0-4}$-heteroaryl-aryl, $-(CR_{245}R_{250})_{0-4}$-heteroaryl-heterocyclyl, $-(CR_{245}R_{250})_{0-4}$-heteroaryl-heteroaryl, $-(CR_{245}R_{250})_{0-4}$-heterocyclyl-heteroaryl, $-(CR_{245}R_{250})_{0-4}$-heterocyclyl-heterocyclyl, $-(CR_{245}R_{250})_{0-4}$-heterocyclyl-aryl, $-[C(R_{255})(R_{260})]_{1-3}$-CO-N-$(R_{255})_2$, $-CH(aryl)_2$, $-CH(heteroaryl)_2$, $-CH(heterocyclyl)_2$, -CH(aryl)(heteroaryl), $-(CH_2)_{0-1}$-CH($(CH_2)_{0-6}$-OH)-$(CH_2)_{0-1}$-aryl, $-(CH_2)_{0-1}$-CH($(CH_2)_{0-6}$-OH)-$(CH_2)_{0-1}$-heteroaryl, -CH(-aryl or -heteroaryl)-CO-O(C_1-C_4 alkyl), -CH(-CH_2-OH)-CH(OH)-phenyl-NO_2, -(C_1-C_6 alkyl)-O-(C_1-C_6 alkyl)-OH; -(C_1-C_6 alkyl)-O-(C_1-C_6 alkenyl); -(C_1-C_6 alkyl)-O-(C_1-C_6 alkyl)-O-(C_1-C_6 alkyl); -(C_1-C_6 alkyl)-O-(C_0-C_6 alkyl)-aryl; -(C_1-C_6 alkyl)-O-(C_0-C_6 alkyl)-cycloalkyl; $-CH_2$-NH-CH_2-CH(-O-CH_2-CH_3)$_2$, $-(CH_2)_{0-6}$-C(=NR_{235})($NR_{235}R_{240}$), -(C_2-C_6 alkenyl)-heteroaryl, $-(CR_{245}R_{250})_{1-4}$-N(R_{235})-C(=O)-O-(C_1-C_3 alkyl)-aryl, $-(CR_{245}R_{250})_{1-4}$-N(R_{235})-C(=O)-(C_0-C_3 alkyl)-aryl, $-(CR_{245}R_{250})_{1-4}$-N(R_{235}) -C(=O) -(C_0-C_3 alkyl)-heteroaryl, $-(CR_{245}R_{250})_{1-4}$-C(=O)-aryl, $-(CR_{245}R_{250})_{1-4}$-C(=O)-heteroaryl, or

C_1-C_{10} alkyl optionally substituted with 1, 2, or 3 groups independently selected from the group consisting of R_{205}, cyclopentenyl, $-OC=ONR_{235}R_{240}$, $-S(=O)_{0-2}$(C_1-C_6 alkyl), -SH, $-NR_{235}C=ONR_{235}R_{240}$, $-C=ONR_{235}R_{240}$, $-NR_{235}$-

$C(=O)-O-R_{205}$, and $-S(=O)_2NR_{235}R_{240}$, $-NR_{235}C(=O)-(C_1-C_6$ alkyl), =O, or

$-(CH_2)_{0-3}-(C_3-C_8)$ cycloalkyl wherein the cycloalkyl is optionally substituted with 1, 2, or 3 groups independently selected from the group consisting of R_{205}, $-CO_2H$, $-CO_2-(C_1-C_4$ alkyl), $-CO-NH_2$, $-CO-NH(C_1-C_6$ alkyl) and $-CO-N-(C_1-C_6$ alkyl)$(C_1-C_6$ alkyl), or

cyclopentyl, cyclohexyl, or cycloheptyl ring fused to aryl, heteroaryl, or heterocyclyl wherein one, two or three carbons of the cyclopentyl, cyclohexyl, or cycloheptyl is optionally replaced with a heteroatom independently selected from NH, NR_{215}, O, and $S(=O)_{0-2}$, and wherein the cyclopentyl, cyclohexyl, or cycloheptyl group is optionally substituted with one or two groups that are independently R_{205}, =O, $-CO-NR_{235}R_{240}$, or $-SO_2-(C_1-C_4$ alkyl), or

C_2-C_{10} alkenyl or C_2-C_{10} alkynyl, each of which is optionally substituted with 1, 2, or 3 independently selected R_{205} groups, wherein

each aryl and heteroaryl is optionally substituted with 1, 2, or 3 R_{200}, and wherein each heterocyclyl is optionally substituted with 1, 2, 3, or 4 independently selected R_{210}, and each cycloalkyl is optionally substituted with 1 or 2 R_{205} groups;

R_{200} at each occurrence is independently selected from -OH, $-NO_2$, halogen, $-CF_3$, $-CO_2H$, C≡N, $-(CH_2)_{0-4}-CO-NR_{220}R_{225}$, $-(CH_2)_{0-4}-CO-(C_1-C_{12}$ alkyl), $-(CH_2)_{0-4}-CO-(C_2-C_{12}$ alkenyl), $-(CH_2)_{0-4}-CO-(C_2-C_{12}$ alkynyl), $-(CH_2)_{0-4}-CO-(C_3-C_7$ cycloalkyl), $-(CH_2)_{0-4}-CO-$aryl, $-(CH_2)_{0-4}-CO-$heteroaryl, $-(CH_2)_{0-4}-CO-$heterocyclyl, $-(CH_2)_{0-4}-CO-O-R_{215}$, $-(CH_2)_{0-4}-SO_2-NR_{220}R_{225}$, $-(CH_2)_{0-4}-SO-(C_1-C_8$ alkyl), $-(CH_2)_{0-4}-SO_2-(C_1-C_{12}$ alkyl), $-(CH_2)_{0-4}-SO_2-(C_3-C_7$ cycloalkyl), $-(CH_2)_{0-4}-N(H$ or $R_{215})-CO-O-R_{215}$, $-(CH_2)_{0-4}-N(H$ or $R_{215})-CO-N(R_{215})_2$, $-(CH_2)_{0-4}-N-CS-N(R_{215})_2$, $-(CH_2)_{0-4}-N(-H$ or $R_{215})-CO-R_{220}$, $-(CH_2)_{0-4}-NR_{220}R_{225}$, $-(CH_2)_{0-4}-O-CO-(C_1-C_6$ alkyl), $-(CH_2)_{0-4}-O-P(O)-$

$(OR_{240})_2$, $-(CH_2)_{0-4}-O-CO-N(R_{215})_2$, $-(CH_2)_{0-4}-O-CS-N(R_{215})_2$, $-(CH_2)_{0-4}-O-(R_{215})$, $-(CH_2)_{0-4}-O-(R_{215})-COOH$, $-(CH_2)_{0-4}-S-(R_{215})$, $-(CH_2)_{0-4}-O-(C_1-C_6)$ alkyl optionally substituted with 1, 2, 3, or 5 -F, C_3-C_7 cycloalkyl, $-(CH_2)_{0-4}-N(H \text{ or } R_{215})-SO_2-R_{220}$, $-(CH_2)_{0-4}-C_3-C_7$ cycloalkyl,

C_1-C_{10} alkyl optionally substituted with 1, 2, or 3 independently selected R_{205} groups,

C_2-C_{10} alkenyl and C_2-C_{10} alkynyl, each of which is optionally substituted with 1 or 2 independently selected R_{205} groups, wherein

the aryl and heteroaryl groups at each occurrence are optionally substituted with 1, 2, or 3 groups that are independently R_{205}, R_{210}, or

C_1-C_6 alkyl substituted with 1, 2, or 3 groups that are independently R_{205} or R_{210}, and wherein

the heterocyclyl group at each occurrence is optionally substituted with 1, 2, or 3 groups that are independently R_{210};

R_{205} at each occurrence is independently selected from C_1-C_6 alkyl, halogen, -OH, -COOH, -O-phenyl, -SH, $-S-C_1-C_6$ alkyl, $-C\equiv N$, $-CF_3$, C_1-C_6 alkoxy, NH_2, $NH(C_1-C_6$ alkyl) or $N-(C_1-C_6$ alkyl)$(C_1-C_6$ alkyl);

R_{210} at each occurrence is independently selected from halogen, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, $-NR_{220}R_{225}$, OH, $C\equiv N$, $-CO-(C_1-C_4$ alkyl), $-SO_2-NR_{235}R_{240}$, $-CO-NR_{235}R_{240}$, $-C(=O)-(C_1-C_6$ alkyl)$-NR_{235}-C(=O)-O-R_{205}$, $-C(=O)-(C_1-C_4$ alkyl)$-OH$, $-C(=O)-(C_1-C_6$ alkyl)$-NR_{235}R_{240}$, $-C(=O)-(C_1-C_6$ alkyl)-imidazolyl, $-SO_2-(C_1-C_4$ alkyl), $-CO_2-(C_1-C_4$ alkyl), =O, or

C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or C_3-C_7 cycloalkyl, each of which is optionally substituted with 1, 2, or 3 R_{205} groups;

R_{215} at each occurrence is independently selected from C_1-C_6 alkyl, $-(CH_2)_{0-2}-$(aryl), C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_7 cycloalkyl, and $-(CH_2)_{0-2}-$(heteroaryl), $-(CH_2)_{0-2}-$(heterocyclyl), wherein

the aryl group at each occurrence is optionally substituted with 1, 2, or 3 groups that are independently R_{205} or R_{210}, and wherein

the heterocyclyl and heteroaryl groups at each occurrence are optionally substituted with 1, 2, or 3 independently selected R_{210};

R_{220} and R_{225} at each occurrence are independently selected from -H, $-C_3-C_7$ cycloalkyl, $-(C_1-C_2$ alkyl$)-(C_3-C_7$ cycloalkyl), $-(C_1-C_6$ alkyl$)-O-(C_1-C_3$ alkyl), $-C_2-C_6$ alkenyl, $-C_2-C_6$ alkynyl, $-C_1-C_6$ alkyl chain with one double bond and one triple bond, -aryl, -heteroaryl, and -heterocyclyl, and $-C_1-C_{10}$ alkyl optionally substituted with -OH, $-NH_2$ or halogen, wherein

the aryl, heterocyclyl and heteroaryl groups at each occurrence are optionally substituted with 1, 2, or 3 independently selected R_{270} groups

R_{235} and R_{240} at each occurrence are independently H, or C_1-C_6 alkyl;

R_{245} and R_{250} at each occurrence are independently selected from -H, halogen, $-CF_3$, -OH, $-NH_2$, $-NR_{235}-C(=O)-O-R_{205}$, C_1-C_4 alkyl, C_1-C_4 alkylaryl, C_1-C_4 alkylheteroaryl, C_1-C_4 hydroxyalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, $-(CH_2)_{0-4}-C_3-C_7$ cycloalkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, and phenyl; or

R_{245} and R_{250} are taken together with the carbon to which they are attached to form a carbocycle of 3, 4, 5, 6, or 7 carbon atoms, where one carbon atom is optionally replaced by a heteroatom selected from -O-, -S-, $-SO_2-$, and $-NR_{220}-$;

R_{255} and R_{260} at each occurrence are independently selected from -H, $-(CH_2)_{1-2}-S(O)_{0-2}-(C_1-C_6$ alkyl), $-(C_1-C_4$ alkyl$)$-aryl, $-(C_1-C_4$ alkyl$)$-heteroaryl, $-(C_1-C_4$ alkyl$)$-heterocyclyl, -aryl, -heteroaryl, -heterocyclyl, $-(CH_2)_{1-4}-R_{265}-(CH_2)_{0-4}$-aryl, $-(CH_2)_{1-4}-R_{265}-(CH_2)_{0-4}$-heteroaryl, $-(CH_2)_{1-4}-R_{265}-(CH_2)_{0-4}$-heterocyclyl, and

C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl and -$(CH_2)_{0-4}$-C_3-C_7 cycloalkyl, each of which is optionally substituted with 1, 2, or 3 groups independently selected from R_{205}, -COOH, -COO(C_1-C_4 alkyl), -CO-NH_2, -CO-NH(C_1-C_6 alkyl), -CO-N-(C_1-C_6 alkyl)(C_1-C_6 alkyl), wherein each aryl or phenyl is optionally substituted with 1, 2, or 3 groups that are independently R_{205}, R_{210}, or C_1-C_6 alkyl substituted with 1, 2, or 3 groups that are independently R_{205} or R_{210}, and wherein each heterocyclyl is optionally substituted with 1, 2, 3, or 4 R_{210};

R_{265} at each occurrence is independently -O-, -S- or -N(C_1-C_6 alkyl)-; and

R_{270} at each occurrence is independently R_{205}, halogen C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, $NR_{235}R_{240}$, -OH, -C≡N, -CO-(C_1-C_4 alkyl), -SO_2-$NR_{235}R_{240}$, -CO-$NR_{235}R_{240}$, -SO_2-(C_1-C_4 alkyl), =O, or C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or -$(CH_2)_{0-4}$-C_3-C_7 cycloalkyl, each of which is optionally substituted with 1, 2, or 3 R_{205} groups.

2. A compound according to claim 1 wherein

wherein X is  .

3. A compound according to claim 1 wherein

R_1 and Y together form aryl, heteroaryl, heterocyclyl, -C_1-C_6 alkyl-aryl, -C_1-C_6 alkyl-heteroaryl, or -C_1-C_6 alkyl-heterocyclyl, where the ring portions of each are optionally substituted with 1, 2, 3, or 4 groups independently selected from halogen, -OH, -SH, -C≡N, -NO_2, -NRR', -CO_2R, -N(R)COR', or -N(R)SO_2R', -C(=O)-(C_1-C_4) alkyl, -SO_2-amino, -SO_2-mono or dialkylamino, -C(=O)-amino, -C(=O)-mono or dialkylamino, -SO_2-(C_1-C_4) alkyl, or

C_1-C_6 alkoxy optionally substituted with 1, 2, or 3 groups which are independently selected from halogen, or

C_3-C_7 cycloalkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, $-CF_3$, C_1-C_3 alkoxy, amino, -C_1-C_6 alkyl and mono- or dialkylamino, or

C_1-C_{10} alkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, $-CF_3$, -C_1-C_3 alkoxy, amino, mono- or dialkylamino and -C_1-C_3 alkyl, or

C_2-C_{10} alkenyl or C_2-C_{10} alkynyl each of which is optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, $-CF_3$, C_1-C_3 alkoxy, amino, C_1-C_6 alkyl and mono- or dialkylamino; and the heterocyclyl group is optionally further substituted with oxo.

4. A compound according to claim 1 wherein

R_1 and Y together form -$(CH_2)_n$-aryl, wherein n is 1, 2 or 3 and wherein 1, 2, or 3 hydrogens of -$(CH_2)_n$- are replaced with one, two or three groups independently selected from F, Cl, Br, I, OH, C_1-C_3 alkoxy, -N(COR)R', and -NRR'. More preferably, n is 1.

5. A compound according to claim 1 wherein

X' is -(C=O)-, and

R_2 is C_1-C_6 alkyl optionally substituted with 1 or 2 groups independently selected from halogen (in one aspect, F or Cl), -OH, -SH, -CN, $-CF_3$, $-OCF_3$, C_1-C_6 alkoxy, C_3-C_7 cycloalkyl, C_3-C_7 cycloalkoxy or $-NR_{100}R_{101}$.

6. A compound according to claim 1 wherein

R_6 is $-(CR_{245}R_{250})_{1-4}$-aryl, $-(CR_{245}R_{250})_{1-4}$-heteroaryl, $-(CR_{245}R_{250})_{1-4}$-heterocyclyl, $-(C_1-C_6$ alkyl$)$-O-$(C_1-C_3$ alkyl$)$-aryl; $-(C_2-C_6$ alkenyl$)$-heteroaryl; or

C_1-C_{10} alkyl optionally substituted with 1, 2, or 3 groups independently selected from the group consisting of halogen, -OH, -O-phenyl, $-C_1-C_6$ alkoxy, and $-NR_{235}-C(=O)-O-R_{205}$, or

$-(CH_2)_{1-3}-(C_3-C_7)$ cycloalkyl wherein the cycloalkyl is optionally substituted with 1, 2, or 3 groups independently selected from the group consisting of C_1-C_6 alkyl, halogen, -OH, -C≡N, $-CF_3$, C_1-C_6 alkoxy, NH_2, or

C_2-C_{10} alkenyl or C_2-C_{10} alkynyl, each of which is optionally substituted with 1, 2, or 3 independently selected R_{205} groups, wherein

each aryl and heteroaryl is optionally substituted with 1, 2, or 3 of OH, $-NO_2$, halogen, $-CF_3$, $-CO_2H$, C≡N, or C_1-C_6 alkoxy, and wherein each heterocyclyl is optionally substituted with 1, 2, or 3 groups independently selected from $-C(=O)-(C_1-C_6$ alkyl$)-NR_{235}-C(=O)-O-R_{205}$, $-C(=O)-(C_1-C_4$ alkyl$)$-OH, and $-CO_2-(C_1-C_4$ alkyl$)$; and

R_{245} and R_{250} at each occurrence are independently selected from -H, halogen, $-CF_3$, -OH, $-NH_2$, $-C_1-C_4$ alkyl, C_1-C_4 alkoxy, and C_1-C_4 haloalkoxy.

7. A compound according to claim 1 selected from the group consisting of:

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-4-methylpentanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-4-methylpentanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-4-methylpentanamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(4-methylpentanoyl)amino]-L-*threo*-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(4-methylpentanoyl)amino]-L-*threo*-heptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-4-phenylbutanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-4-phenylbutanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-4-phenylbutanamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(4-phenylbutanoyl)amino]-L-*threo*-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(4-phenylbutanoyl)amino]-L-*threo*-heptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-2-(benzyloxy)acetamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-2-(benzyloxy)acetamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-2-(benzyloxy)acetamide;

2-(acetylamino)-5-{[(benzyloxy)acetyl]amino}-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-L-*threo*-hexitol;

2-(acetylamino)-5-{[(benzyloxy)acetyl]amino}-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-L-*threo*-heptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-3-cyclopentylpropanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-3-cyclopentylpropanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-3-cyclopentylpropanamide;

2-(acetylamino)-5-[(3-cyclopentylpropanoyl)amino]-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-L-*threo*-hexitol;

2-(acetylamino)-5-[(3-cyclopentylpropanoyl)amino]-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-L-*threo*-heptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-2-ethoxyacetamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-2-ethoxyacetamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-2-ethoxyacetamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(ethoxyacetyl)amino]-L-*threo*-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(ethoxyacetyl)amino]-L-*threo*-heptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-2-propoxyacetamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-2-propoxyacetamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-2-propoxyacetamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(propoxyacetyl)amino]-L-*threo*-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(propoxyacetyl)amino]-L-*threo*-heptitol;

(3*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]hex-3-enamide;

(3*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]hex-3-enamide

(3*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]hex-3-enamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(3*E*)-hex-3-enoylamino]-L-*threo*-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(3*E*)-hex-3-enoylamino]-L-*threo*-heptitol;

(3*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]pent-3-enamide;

(3*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]pent-3-enamide;

(3*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]pent-3-enamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(3*E*)-pent-3-enoylamino]-L-*threo*-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(3*E*)-pent-3-enoylamino]-L-*threo*-heptitol;

(2*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]hex-2-enamide;

(2*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]hex-2-enamide;

(2*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]hex-2-enamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(2*E*)-hex-2-enoylamino]-L-*threo*-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(2*E*)-hex-2-enoylamino]-L-*threo*-heptitol;

(2*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]pent-2-enamide;

(2*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]pent-2-enamide;

(2*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]pent-2-enamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(2*E*)-pent-2-enoylamino]-L-*threo*-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(2*E*)-pent-2-enoylamino]-L-*threo*-heptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]pentanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]pentanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]pentanamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-(pentanoylamino)-L-*threo*-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-(pentanoylamino)-L-*threo*-heptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]hexanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]hexanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]hexanamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-(hexanoylamino)-L-*threo*-hexitol; and

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-(hexanoylamino)-L-*threo*-heptitol.

8. A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier.

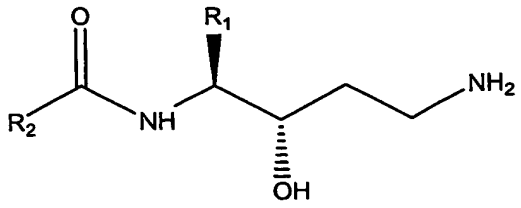
9. A method for the treatment or prevention of Alzheimer's disease, mild cognitive impairment Down's syndrome, Hereditary Cerebral Hemorrhage with Amyloidosis of the Dutch-Type, cerebral amyloid angiopathy, other degenerative dementias, dementias of mixed vascular and degenerative origin, dementia associated with Parkinson's disease, dementia associated with progressive supranuclear palsy, dementia associated with cortical basal degeneration, diffuse Lewy body type of Alzheimer's disease comprising administration of a therapeutically effective amount of a compound or salt according to Claim 1, to a patient in need thereof.

10. A method of treatment as in claim 9, wherein the patient is a human.

11. A method of treatment according to claim 9, wherein the disease is dementia.

12. A method for making a compound of claim 1.

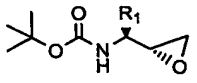
13. An intermediate of the formula 23:



23

wherein R_1 and R_2 are as defined in claim 1.

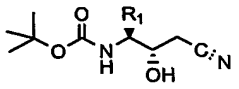
14. An intermediate of formula 19:



19

wherein R_1 is as defined in claim 1.

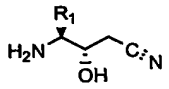
15. An intermediate of formula 20:



20

wherein R_1 is as defined in claim 1.

16. An intermediate of formula 21:



21

wherein R_1 is as defined in claim 1.

17. The use of a compound or salt according to claim 1 for the manufacture of a medicament.

18. The use of a compound or salt according to claim 1 for the manufacture of a medicament for use in the treatment or prevention of Alzheimer's disease, mild cognitive impairment Down's syndrome, Hereditary Cerebral Hemorrhage with Amyloidosis of the Dutch-Type, cerebral amyloid angiopathy, other degenerative dementias, dementias of mixed vascular and

degenerative origin, dementia associated with Parkinson's disease, dementia associated with progressive supranuclear palsy, dementia associated with cortical basal degeneration, or diffuse Lewy body type of Alzheimer's disease.

5